

REMARKS

This responds to the Office Action mailed on November 1, 2005.

Claims 1, 3-13 and 23-33 are pending in this application.

§102 Rejection of the Claims

Claims 1, 3-4, 11 and 12 were rejected under 35 USC § 102(e) as being anticipated by Wachtler et al. (U.S. 6,274,391 B1). Applicant respectfully traverses this rejection and requests the Office to consider the following.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” (*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), M.P.E.P. §2131, 8th Ed., Rev. 1). Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131.

Claim 1 has the limitation of

a thermally conductive material adhering said at least one
microelectronic die back surface to said recess bottom surface.

The Office Action erroneously states that Wachtler et al. “teaches a microelectronic package comprising: ... a thermally conductive material (adhesive) adhering said at least one microelectronic die back surface to said recess bottom surface (see col. 8, lines 55-57)”

Upon review of what Wachtler states and illustrates, it is clear that Wachtler only teaches that the “adhesive material may or may not fill the gap between the edge of the semiconductor device 16 and the cavity 14”. (Wachtler et al. at col. 8, lines 60-61). Wachtler fails to teach what is claimed regarding “a thermally conductive material *adhering* said at least one microelectronic die *back surface* to said recess *bottom surface*”. (Claim 1, emphases added). Further, Wachtler et al. illustrates no space for an adhesive between structure 18 and structure 16 at the backside surface thereof. Because “[t]he identical invention [is not] shown in as complete detail as is contained in the ... claim” (*Richardson, supra*), Wachtler et al. does not anticipate claim 1. Withdrawal of the rejections is respectfully requested.

§103 Rejection of the Claims

Claim 6 was rejected under 35 USC § 103(a) as being unpatentable over Wachtler et al. in view of Shibamoto et al. (U.S. 6,563,212 B2). Applicant respectfully traverses the rejection and requests the Office to consider the following.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (M.P.E.P. § 2143 8th Ed, Rev.1).

Claim 6 depends from claim 1. Wachtler et al. only teaches that the “adhesive material may or may not fill the gap between the edge of the semiconductor device 16 and the cavity 14” (Wachtler et al. at col. 8, lines 60-61), and Wachtler et al. illustrates no space for an adhesive between structure 18 and structure 16 at the backside surface thereof. Thus, although Shibamoto may teach various adhesives, they cannot be located where claim 6 requires. Shibamoto has nothing to do with “a heat spreader having a first surface, said heat spreader having at least one recess defined therein by at least one sidewall extending from said heat spreader first surface to a

recess bottom surface" (Claim 1, from which claim 6 depends). Withdrawal of the rejections is respectfully requested.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, John Greaves at (801) 278-9171, or Applicant's below-named representative to facilitate the prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

QING MA ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
Attorneys for Intel Corporation
P.O. Box 2938
Minneapolis, Minnesota 55402
(612) 349-9592

Date Jan. 3, 2005

By Ann M. McCrackin
Ann M. McCrackin
Reg. No. 42,858

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 3rd day of January, 2006.

Amy Moriarty

Name

[Signature]

Signature